

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A three-dimensionally networked silica composed of silica particles of 100 nm or less connected ~~combining~~-by bridge chains comprising an ~~[[of]]~~ aliphatic, aromatic, polyimine, peptide, or ~~[[and]]~~ polyether group~~[[s]]~~.

Claims 2-3 (canceled)

4. (currently amended) A three-dimensionally networked silica according to claim 1, wherein the ~~combining~~-reactions connecting silica particles are carried out in solvent selected from the group consisting of toluene, xylene, octane, and butanol ~~as solvents~~ at a temperature from 40 to 150°C with refluxing.

5. (currently amended) A three-dimensionally networked silica according to claim 1, wherein silica particles are connected ~~combined~~-by reacting ~~silane-coupled-silica~~ particles coupled with trialkoxy silane having an amine substituent with ~~[[and]]~~ another silica particles coupled with trialkoxy silane having a glycidyl substituent.

6. (currently amended) A three-dimensionally networked silica according to claim 5, wherein ~~[[the]]~~ reacting pairs in the connecting reactions are amine and chloride, glycidyl and mercapto, glycidyl and hydroxyl, or ~~[[and]]~~ amine and mercapto groups.

7. (currently amended) A three-dimensionally networked silica according to claim 5, wherein ~~[[the]]~~ coupling reactions between silica particles and silane and between silane-coupled silica particles are carried out in toluene by refluxing.

8. (original) A three-dimensionally networked silica according to claim 5, wherein the silane having an amine substituent is 3-aminopropyltriethoxy silane and the silane having a glycidyl substituent is 3-glycidoxypropyltrimethoxy silane.

9. (original) A three-dimensionally networked silica according to claim 5, wherein the silane having an amine substituent is 3-aminopropyltriethoxy silane and the silane having a chloride substituent is 3-chloropropyltrimethoxy silane.

Claims 10-11 (canceled)

12. (currently amended) A three-dimensionally networked silica according to claim 1, wherein silica particles are connected ~~combined~~ by reacting silane-coupled silica particles with connecting materials with multifunctional groups on their ends in toluene by refluxing.

13. (currently amended) A three-dimensionally networked silica according to claim 12, wherein the connecting materials are selected from the group consisting of diamines, dichlorides, diisocyanates, and dicarboxylic acids.

Claim 14 (canceled)

15. (currently amended) A three-dimensionally networked silica according to claim 12, wherein connecting materials are diisocyanates ~~diisocyanate~~-having methylene chains of C₆-C₁₀₀.

Claims 16-17(canceled)

18. (currently amended) A three-dimensionally networked silica according to claim 12, wherein the silane having a glycidyl substituent is 3-glycidyloxypropyltrimethoxy silane, and the connecting materials are ~~[[is]]~~ diaminoalkanes or diisocyanato~~[[]]~~alkanes.

19. (currently amended) A three-dimensionally networked silica according to claim 12, wherein the silane having a glycidyl substituent is 3-glycidoxypropyltrimethoxy silane, and the connecting materials are ~~[[is]]~~ polyethyleneimines.

20. (previously presented) A three-dimensionally networked silica according to claim 19, wherein the skeletal of connecting materials is polyether.

21. (currently amended) A three-dimensionally networked silica according to claim 1, wherein silica particles are connected ~~combined~~ by reacting silica particles directly with multifunctional connecting materials in toluene by refluxing.

22. (previously presented) A three-dimensionally networked silica according to claim 21, wherein the multifunctional connecting materials are dichlorides.

23. (previously presented) A three-dimensionally networked silica according to claim 21, wherein the multifunctional connecting materials are diisocyanates.

24. (currently amended) A three-dimensionally networked silica according to claim 5, wherein ~~[[the]]~~ non-reacted amine groups are inactivated by reacting with ~~chloroalkane~~ with C₄-C₁₂-chloroalkane in toluene and ~~with~~ refluxing.

Claims 25-27 (canceled)

28. (currently amended) An article of manufacture comprising a three-dimensionally networked silica according to claim 1 and rubber compounds, ~~which is an additive to reinforce tensile and mechanical properties of rubber compounds~~ containing zinc oxide, stearic acid, curative accelerator, activator, processing oil, stabilizers, and retarder to reinforce tensile and mechanical properties of the article.

29. (currently amended) An article ~~three-dimensionally networked silica~~ according to claim 28, wherein the ~~which is an additive for rubber compounds~~ contain base rubber selected from the group consisting ~~composed of~~ diene rubber, natural rubber, butadiene rubber, styrene-butadiene rubber, and butyl rubber ~~as base rubber~~.